FIG.1

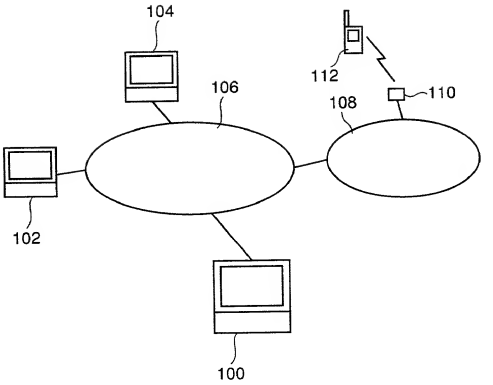

FIG.2

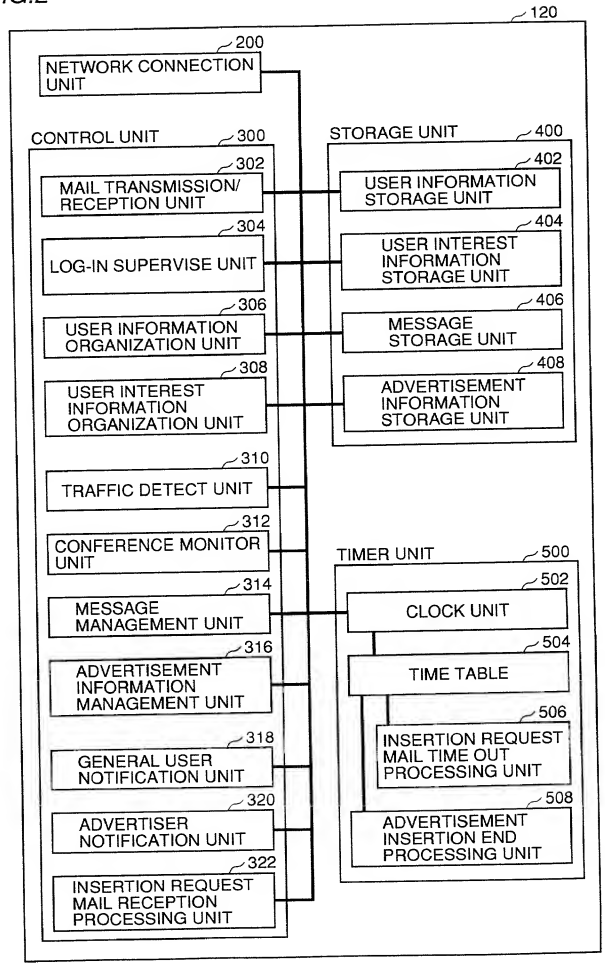
120
200
NETWORK CONNECTION UNIT
CONTROL UNIT
300
302
MAIL TRANSMISSION/ RECEPTION UNIT
304
LOG-IN SUPERVISE UNIT
306
USER INFORMATION ORGANIZATION UNIT
308
USER INTEREST INFORMATION ORGANIZATION UNIT
310
TRAFFIC DETECT UNIT
312
CONFERENCE MONITOR UNIT
314
MESSAGE MANAGEMENT UNIT
316
ADVERTISEMENT INFORMATION MANAGEMENT UNIT
318
GENERAL USER NOTIFICATION UNIT
320
ADVERTISER NOTIFICATION UNIT
322
INSERTION REQUEST MAIL RECEPTION PROCESSING UNIT
STORAGE UNIT
400
402
USER INFORMATION STORAGE UNIT
404
USER INTEREST INFORMATION STORAGE UNIT
406
MESSAGE STORAGE UNIT
408
ADVERTISEMENT INFORMATION STORAGE UNIT
TIMER UNIT
500
502
CLOCK UNIT
504
TIME TABLE
506
INSERTION REQUEST MAIL TIME OUT PROCESSING UNIT
508
ADVERTISEMENT INSERTION END PROCESSING UNIT

FIG.3

| USER ID | PASSWORD | MAIL ADDRESS | SEX | AGE |
|---|---|---|---|---|
| matu | ******** | matu@hoge.ne.jp | MALE | 21 |
| take | ******** | 09001234567@hogehoge.ne.jp | FEMALE | 17 |
| ume | ******** | 09076543210@humuhumu.ne.jp | FEMALE | 25 |
| sugi | ******** | sugi@foo.ne.jp | MALE | 31 |
| ⋮ | ⋮ | ⋮ | ⋮ | ⋮ |

FIG.4

| USER ID | CONFERENCE HALL OF INTEREST ID | NOTIFICATION TIME | NUMBER OF PRESENTED MESSAGES | NUMBER OF PARTICIPANTS IN CONFERENCE |
|---|---|---|---|---|
| matu | 2 | 2000/03/02 19:39 | 10～ | 5～10 |
| matu | 5 | — | 20～ | 5～ |
| take | 3 | 2000/03/01 11:27 | 10～ | 2～5 |
| take | 6 | — | 20～ | 5～ |
| sugi | 2 | — | 15～ | 10～ |
| ⋮ | ⋮ | ⋮ | ⋮ | ⋮ |

FIG.5

| USER ID | KEYWORD OF INTEREST | NOTIFICATION TIME |
|---|---|---|
| matu | Java | 2000/03/03 15:35 |
| matu | Bean | — |
| take | OS | 2000/03/03 18:34 |
| take | WindowsNT | — |
| ume | Java | 2000/03/03 15:35 |
| ⋮ | ⋮ | ⋮ |

FIG.6

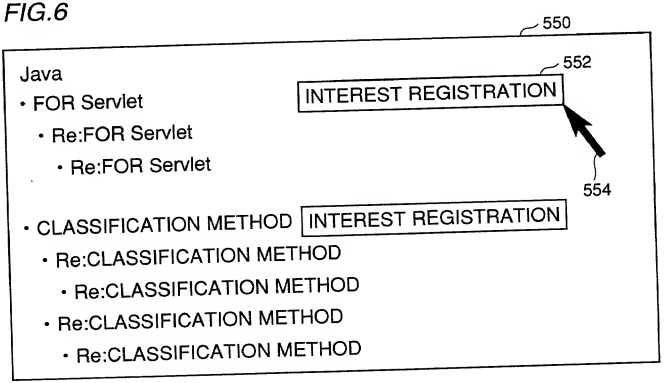
550
552
Java
• FOR Servlet
INTEREST REGISTRATION
• Re:FOR Servlet
• Re:FOR Servlet
554
• CLASSIFICATION METHOD
INTEREST REGISTRATION
• Re:CLASSIFICATION METHOD
• Re:CLASSIFICATION METHOD
• Re:CLASSIFICATION METHOD
• Re:CLASSIFICATION METHOD

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*FIG.7*

| CONFERENCE HALL ID | MESSAGE ID | TITLE | MAIN TEXT | NAME OF PRESENTER | PRESENTED DATE |
|---|---|---|---|---|---|
| 1 | 1 | FOR Servlet | ··· | sakura | 2000/03/01 15:30 |
| 1 | 2 | Re: FOR Servlet | ··· | matu | 2000/03/01 16:00 |
| 1 | 3 | Re: FOR Servlet | ··· | kiku | 2000/03/01 16:30 |
| 2 | 4 | CLASSIFICATION METHOD | ··· | uri | 2000/03/02 19:00 |
| 2 | 5 | Re: CLASSIFICATION METHOD | ··· | tubaki | 2000/03/02 19:30 |
| 2 | 6 | Re: CLASSIFICATION METHOD | ··· | take | 2000/03/02 19:32 |
| 2 | 7 | Re: CLASSIFICATION METHOD | ··· | uri | 2000/03/02 19:35 |
| 2 | 8 | Re: CLASSIFICATION METHOD | ··· | suisen | 2000/03/02 19:39 |
| ⋮ | ⋮ | ⋮ | ⋮ | ⋮ | ⋮ |

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*FIG.8*

| CONFERENCE HALL ID | ADVERTISEMENT INSERTION PROCESSING FLAG | CURRENT STATUS | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | NUMBER OF PRESENTED MESSAGES | NUMBER OF TIMES MESSAGE IS REFERRED TO | NUMBER OF PARTICIPANTS UPPER ROW MALE, LOWER ROW FEMALE | | | | | | | |
| | | | | TOTAL NUMBER | ~9 AGE | ~19 AGE | ~29 AGE | ~39 AGE | ~49 AGE | ~59 AGE | 60 AGE~ |
| 1 | SET | 12 | 23 | 9 | 0 | 1 | 3 | 2 | 3 | 0 | 0 |
| | | | | 9 | 0 | 2 | 4 | 2 | 1 | 0 | 0 |
| 2 | RESET | 11 | 21 | 7 | 0 | 1 | 5 | 1 | 0 | 0 | 0 |
| | | | | 8 | 0 | 2 | 4 | 2 | 0 | 0 | 0 |
| 3 | RESET | 9 | 11 | 7 | 0 | 3 | 1 | 3 | 0 | 0 | 0 |
| | | | | 11 | 0 | 2 | 1 | 4 | 1 | 3 | 0 |
| 4 | SET | 3 | 4 | 12 | 0 | 3 | 0 | 7 | 0 | 1 | 1 |
| | | | | 6 | 0 | 0 | 0 | 6 | 0 | 0 | 0 |
| 5 | RESET | 0 | 3 | 5 | 0 | 0 | 2 | 2 | 1 | 0 | 0 |
| | | | | 4 | 1 | 3 | 0 | 0 | 0 | 0 | 0 |
| ⋮ | ⋮ | ⋮ | ⋮ | ⋮ | ⋮ | ⋮ | ⋮ | ⋮ | ⋮ | ⋮ | ⋮ |

*FIG.9*

| ADVERTISER ID | PASSWORD | MAIL ADDRESS |
|---|---|---|
| 1 | ******** | zou@hoge.ne.jp |
| 2 | ******** | saru@hogehoge.ne.jp |
| 3 | ******** | tota@humuhumu.ne.jp |
| 4 | ******** | tanuki@foo.ne.jp |
| ⋮ | ⋮ | ⋮ |

*FIG.10*

| CONFERENCE HALL ID | ADVERTISER ID | ADVERTISEMENT PERIOD | ADVERTISEMENT INSERTION CONDITION | URL | FIRST ADVERTISEMENT TEXT DATA | SECOND ADVERTISEMENT TEXT DATA | THIRD ADVERTISEMENT TEXT DATA | AUTOMATION FLAG | ADVERTISEMENT INSERTED DURATION |
|---|---|---|---|---|---|---|---|---|---|
| 3 | 1 | 2000/03/06-2000/03/12 | C | http://www.elephant ··· | ··· | ··· | ··· | 1 | 10 |
| 3 | 2 | 2000/03/13-2000/03/19 | A,B | http://www.monkey ··· | ··· | ··· | ··· | 0 | 20 |
| 3 | 3 | 2000/03/20-2000/03/26 | B | http://www.tiger ··· | BANQUET AT ○○. CLICK RIGHT NOW FOR RESERVATION! | BANQUET AT ○○. BEER SERVED AT HALF PRICE!! | NEW LUNCH MENU. ○○ | 0 | 15 |
| 3 | 4 | 2000/03/27-2000/04/02 | A,B,C | http://www.lion ··· | ··· | ··· | ··· | 0 | 10 |
| 3 | 5 | 2000/04/03-2000/04/09 | A | http://www.sheep ··· | ··· | ··· | ··· | 1 | 20 |
| 6 | 12 | 2000/03/20-2000/03/26 | C | http://www.pegasus ··· | ··· | ··· | ··· | 1 | 10 |
| ⋮ | ⋮ | ⋮ | ⋮ | ⋮ | ⋮ | ⋮ | ⋮ | ⋮ | ⋮ |

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*FIG.11*

| CONFERENCE HALL ID | ADVERTISER ID | ADVERTISEMENT INSERTION CONDITION | URL | FIRST ADVERTISEMENT TEXT DATA | SECOND ADVERTISEMENT TEXT DATA | THIRD ADVERTISEMENT TEXT DATA | ADVERTISEMENT INSERTED DURATION |
|---|---|---|---|---|---|---|---|
| 4 | 6 | C | http://www.koala ··· | ··· | ··· | ··· | 10 |
| — | 7 | A,B | http://www.deer ··· | ··· | ··· | ··· | 20 |
| — | 8 | B | http://www.panther ··· | ··· | ··· | ··· | 15 |
| — | 9 | A,B | http://www.cheetah ··· | ··· | ··· | ··· | 20 |
| 4 | 10 | A | http://www.wolf ··· | ··· | ··· | ··· | 20 |
| 5 | 11 | C | http://www.raccoon ··· | ··· | ··· | ··· | 15 |
| ⋮ | ⋮ | ⋮ | ⋮ | ⋮ | ⋮ | ⋮ | ⋮ |

FIG.12

| ADVERTISEMENT INSERTION CONDITION | ACTIVITY | ADVERTISING FEE (PER ONE MINUTE) |
|---|---|---|
| A | NUMBER OF PRESENTED MESSAGES ≧ P1<br>NUMBER OF TIMES MESSAGE REFERRED TO ≧ Q1<br>NUMBER OF PARTICIPANTS ≧ R1 | X 1 |
| B | NUMBER OF PRESENTED MESSAGES ≧ P2<br>NUMBER OF TIMES MESSAGE REFERRED TO ≧ Q2<br>NUMBER OF PARTICIPANTS ≧ R2 | X 2 |
| C | NUMBER OF PRESENTED MESSAGES ≧ P3<br>NUMBER OF TIMES MESSAGE REFERRED TO ≧ Q3<br>NUMBER OF PARTICIPANTS ≧ R3 | X 3 |

P1>P2>P3
Q1>Q2>Q3
R1>R2>R3
X1>X2>X3

FIG.13

| TIME MANAGEMENT ID | TIME | SUBJECT | SET TIME |
|---|---|---|---|
| 1 | 10:05 | INSERTION REQUEST MAIL TIME OUT PROCESSING UNIT | REPLY WAITING TIME LIMIT OF ADVERTISEMENT INSERTION CONFIRMATION MAIL (ID = 1) |
| 2 | 10:12 | INSERTION REQUEST MAIL TIME OUT PROCESSING UNIT | REPLY WAITING TIME LIMIT OF ADVERTISEMENT INSERTION CONFIRMATION MAIL (ID = 2) |
| 3 | 11:14 | ADVERTISEMENT INSERTION END PROCESSING UNIT | ADVERTISEMENT INSERTION END TIME OF CONFERENCE HALL (ID = 1) |
| 4 | 12:33 | ADVERTISEMENT INSERTION END PROCESSING UNIT | ADVERTISEMENT INSERTION END TIME OF CONFERENCE HALL (ID = 5) |
| ⋮ | ⋮ | ⋮ | ⋮ |

FIG.14

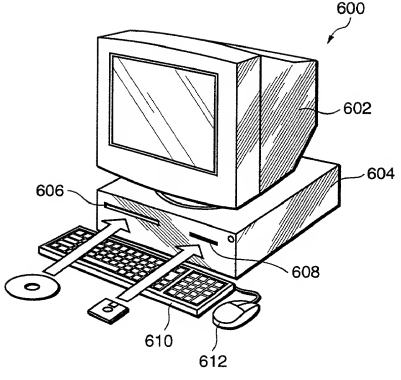
600
602
604
606
608
610
612

FIG.15

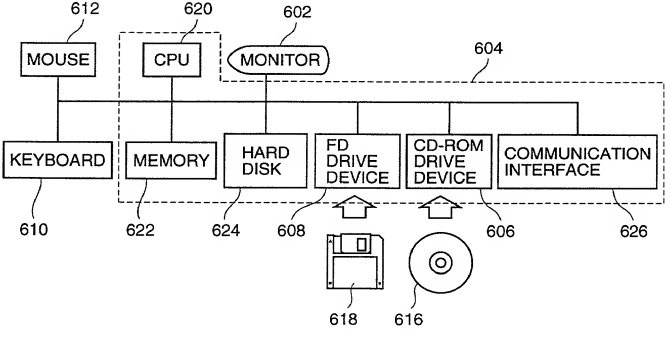
612
620
602
604
MOUSE
CPU
MONITOR
KEYBOARD
MEMORY
HARD DISK
FD DRIVE DEVICE
CD-ROM DRIVE DEVICE
COMMUNICATION INTERFACE
610
622
624
608
606
626
618
616

FIG.16

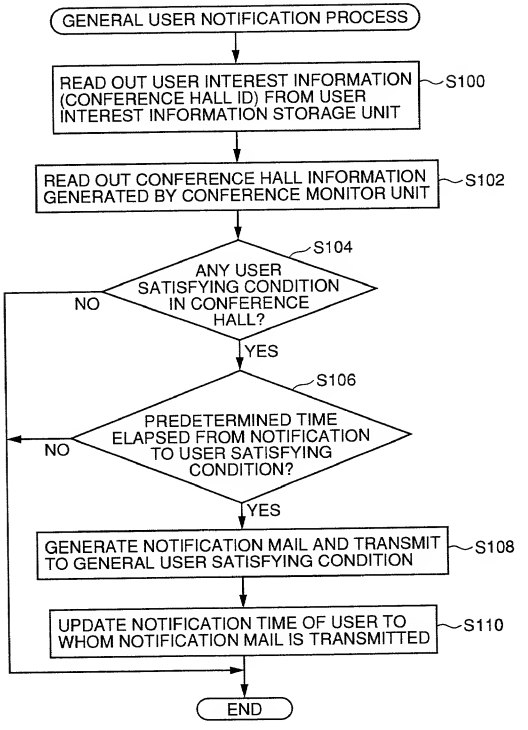
GENERAL USER NOTIFICATION PROCESS
READ OUT USER INTEREST INFORMATION (CONFERENCE HALL ID) FROM USER INTEREST INFORMATION STORAGE UNIT
S100
READ OUT CONFERENCE HALL INFORMATION GENERATED BY CONFERENCE MONITOR UNIT
S102
S104
ANY USER SATISFYING CONDITION IN CONFERENCE HALL?
NO
YES
S106
PREDETERMINED TIME ELAPSED FROM NOTIFICATION TO USER SATISFYING CONDITION?
NO
YES
GENERATE NOTIFICATION MAIL AND TRANSMIT TO GENERAL USER SATISFYING CONDITION
S108
UPDATE NOTIFICATION TIME OF USER TO WHOM NOTIFICATION MAIL IS TRANSMITTED
S110
END

FIG.17

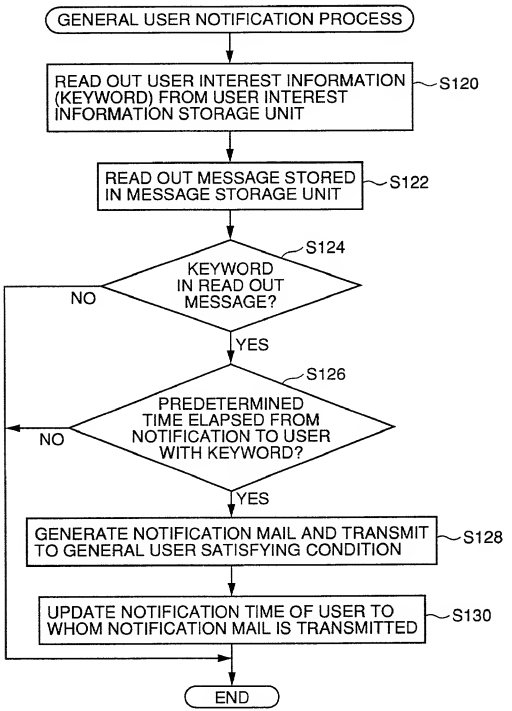
GENERAL USER NOTIFICATION PROCESS
READ OUT USER INTEREST INFORMATION (KEYWORD) FROM USER INTEREST INFORMATION STORAGE UNIT
S120
READ OUT MESSAGE STORED IN MESSAGE STORAGE UNIT
S122
KEYWORD IN READ OUT MESSAGE?
S124
NO
YES
PREDETERMINED TIME ELAPSED FROM NOTIFICATION TO USER WITH KEYWORD?
S126
NO
YES
GENERATE NOTIFICATION MAIL AND TRANSMIT TO GENERAL USER SATISFYING CONDITION
S128
UPDATE NOTIFICATION TIME OF USER TO WHOM NOTIFICATION MAIL IS TRANSMITTED
S130
END

*FIG.18*

[CONFERENCE HALL OF INTEREST ID] 3

CONFERENCE IS ACTIVE!!
<INFORMATION WITHIN LAST 5 MINUTES>
NUMBER OF PRESENTED MESSAGES: ○○
NUMBER OF PARTICIPANTS: ○○ (MALE: ○, FEMALE: ○)
FREQUENTLY APPEARING WORDS IN CONFERENCE: ○○

*FIG.19*

[KEYWORD OF INTEREST] Java
[CONFERENCE HALL ID] 4
CONFERENCE IS ACTIVE!!
<INFORMATION WITHIN LAST 5 MINUTES>
NUMBER OF PRESENTED MESSAGES: ○○
NUMBER OF PARTICIPANTS: ○○ (MALE: ○, FEMALE: ○)
FREQUENTLY APPEARING WORDS IN CONFERENCE: ○○

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FIG.20

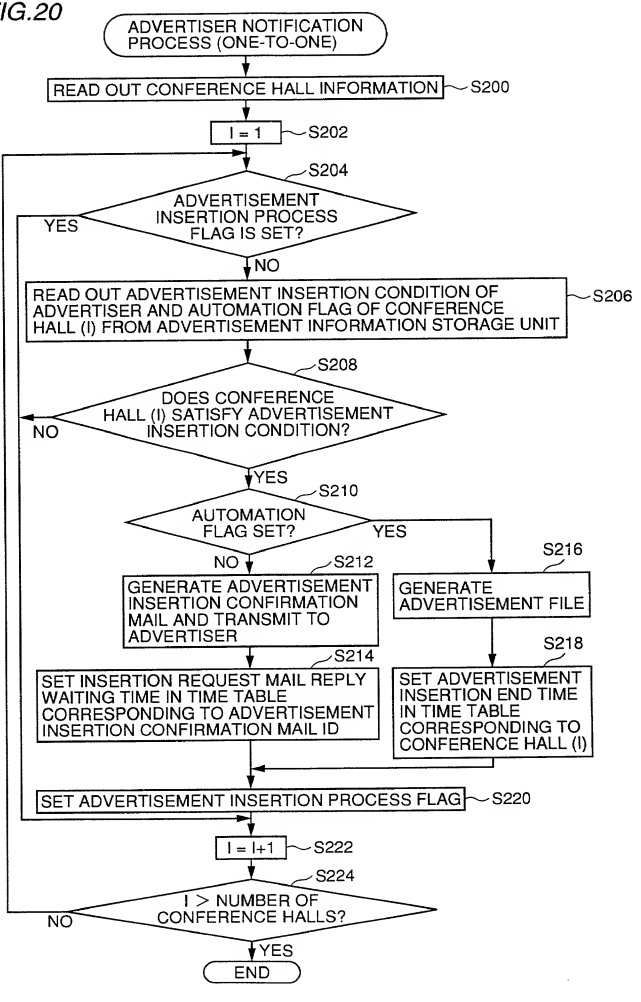
ADVERTISER NOTIFICATION PROCESS (ONE-TO-ONE)
READ OUT CONFERENCE HALL INFORMATION
S200
I = 1
S202
S204
ADVERTISEMENT INSERTION PROCESS FLAG IS SET?
YES
NO
READ OUT ADVERTISEMENT INSERTION CONDITION OF ADVERTISER AND AUTOMATION FLAG OF CONFERENCE HALL (I) FROM ADVERTISEMENT INFORMATION STORAGE UNIT
S206
S208
DOES CONFERENCE HALL (I) SATISFY ADVERTISEMENT INSERTION CONDITION?
NO
YES
S210
AUTOMATION FLAG SET?
YES
NO
S212
GENERATE ADVERTISEMENT INSERTION CONFIRMATION MAIL AND TRANSMIT TO ADVERTISER
S214
SET INSERTION REQUEST MAIL REPLY WAITING TIME IN TIME TABLE CORRESPONDING TO ADVERTISEMENT INSERTION CONFIRMATION MAIL ID
S216
GENERATE ADVERTISEMENT FILE
S218
SET ADVERTISEMENT INSERTION END TIME IN TIME TABLE CORRESPONDING TO CONFERENCE HALL (I)
SET ADVERTISEMENT INSERTION PROCESS FLAG
S220
I = I+1
S222
S224
I > NUMBER OF CONFERENCE HALLS?
NO
YES
END

*FIG.21*

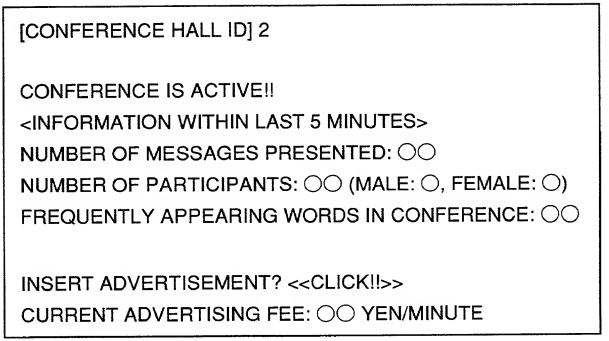


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FIG.22

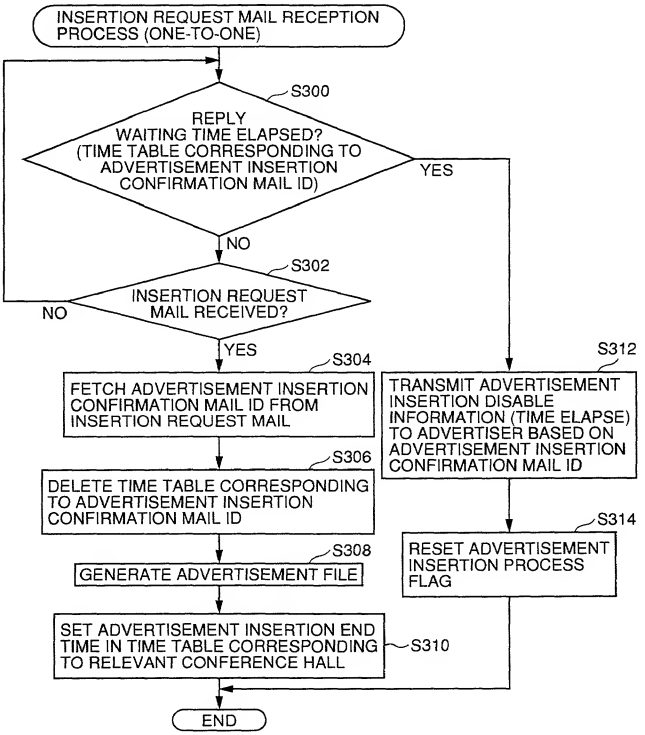


FIG.23

To:chat@hoge.ne.jp
Subject:advertise
CONFERENCE HALL ID:3
ADVERTISEMENT TEXT:2

FIG.24

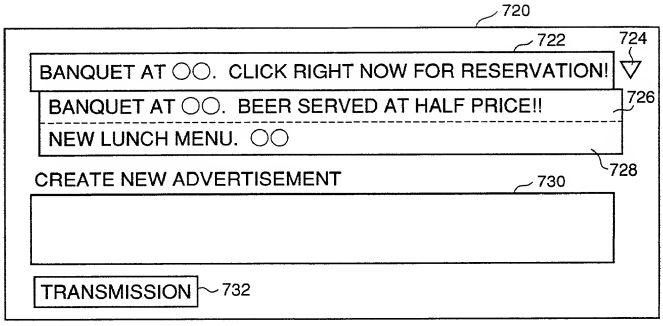
720
722
724
BANQUET AT ○○. CLICK RIGHT NOW FOR RESERVATION!
726
BANQUET AT ○○. BEER SERVED AT HALF PRICE!!
NEW LUNCH MENU. ○○
728
CREATE NEW ADVERTISEMENT
730
TRANSMISSION
732

FIG.25

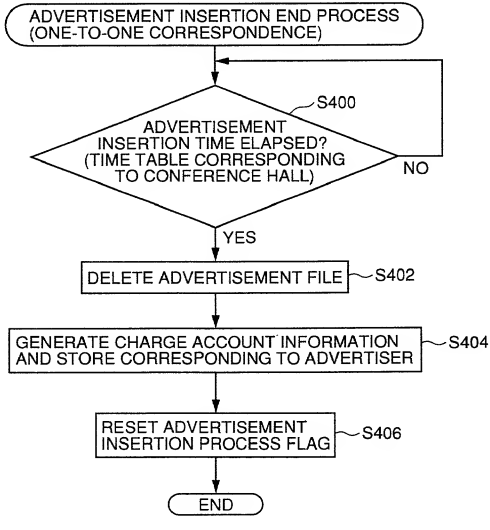
ADVERTISEMENT INSERTION END PROCESS (ONE-TO-ONE CORRESPONDENCE)
S400
ADVERTISEMENT INSERTION TIME ELAPSED? (TIME TABLE CORRESPONDING TO CONFERENCE HALL)
NO
YES
DELETE ADVERTISEMENT FILE
S402
GENERATE CHARGE ACCOUNT INFORMATION AND STORE CORRESPONDING TO ADVERTISER
S404
RESET ADVERTISEMENT INSERTION PROCESS FLAG
S406
END

FIG.26

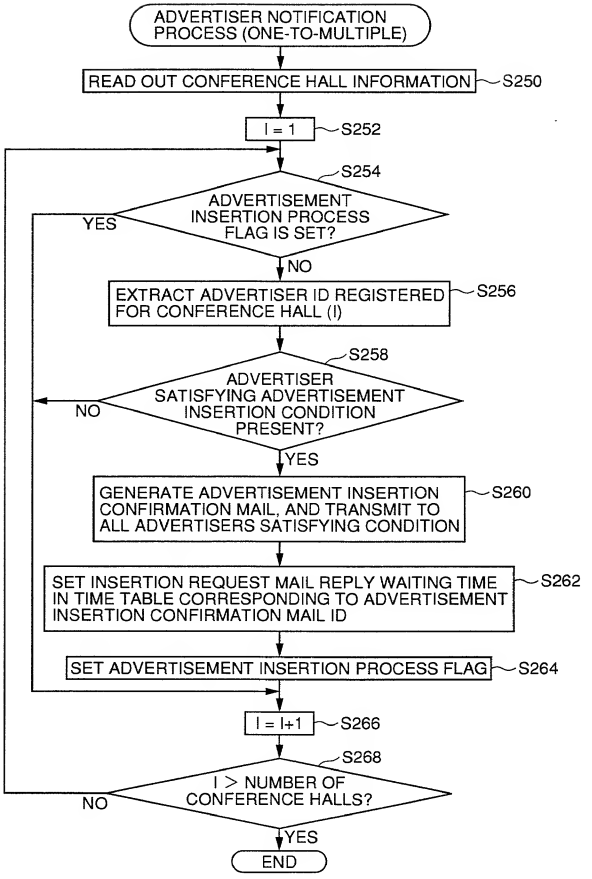
ADVERTISER NOTIFICATION PROCESS (ONE-TO-MULTIPLE)
READ OUT CONFERENCE HALL INFORMATION
S250
I = 1
S252
S254
ADVERTISEMENT INSERTION PROCESS FLAG IS SET?
YES
NO
EXTRACT ADVERTISER ID REGISTERED FOR CONFERENCE HALL (I)
S256
S258
ADVERTISER SATISFYING ADVERTISEMENT INSERTION CONDITION PRESENT?
NO
YES
GENERATE ADVERTISEMENT INSERTION CONFIRMATION MAIL, AND TRANSMIT TO ALL ADVERTISERS SATISFYING CONDITION
S260
SET INSERTION REQUEST MAIL REPLY WAITING TIME IN TIME TABLE CORRESPONDING TO ADVERTISEMENT INSERTION CONFIRMATION MAIL ID
S262
SET ADVERTISEMENT INSERTION PROCESS FLAG
S264
I = I+1
S266
S268
I > NUMBER OF CONFERENCE HALLS?
NO
YES
END

FIG.27

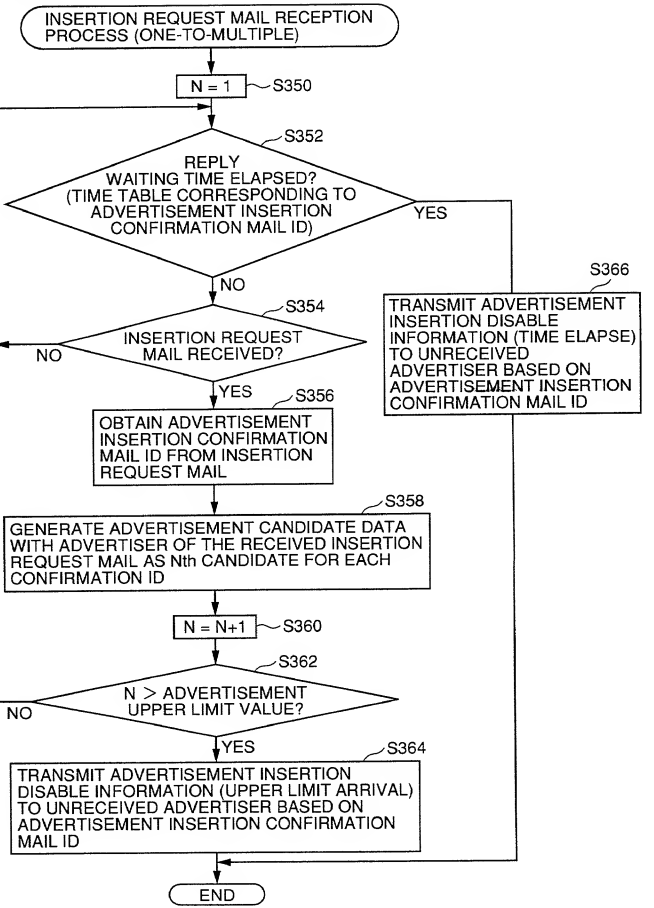


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*FIG.28*

| ADVERTISEMENT INSERTION CONFIRMATION MAIL ID | CONFERENCE HALL ID | ADVERTISER ID | CANDIDATE ORDER | ADVERTISEMENT TEXT IDENTIFICATION INFORMATION |
|---|---|---|---|---|
| 1001 | 3 | 2 | 1 | SECOND ADVERTISEMENT TEXT |
| 1001 | 3 | 1 | 2 | NEW TRANSMITTED TEXT |
| 1001 | 3 | 3 | 3 | FIRST ADVERTISEMENT TEXT |
| ⋮ | ⋮ | ⋮ | ⋮ | ⋮ |

FIG.29

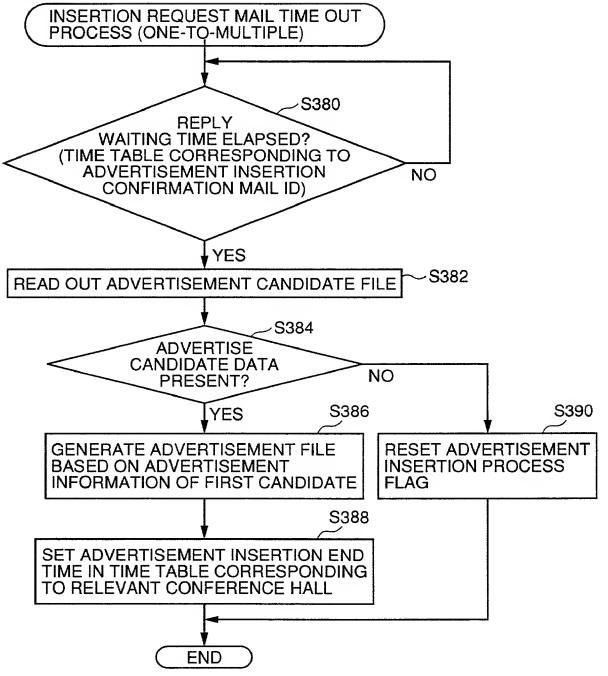


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FIG.30

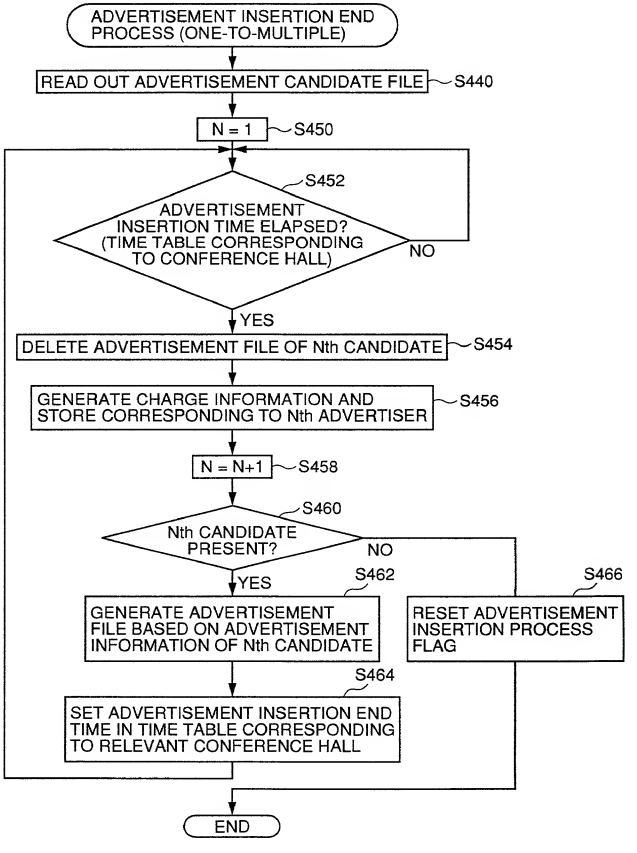
ADVERTISEMENT INSERTION END PROCESS (ONE-TO-MULTIPLE)
READ OUT ADVERTISEMENT CANDIDATE FILE
S440
N = 1
S450
S452
ADVERTISEMENT INSERTION TIME ELAPSED? (TIME TABLE CORRESPONDING TO CONFERENCE HALL)
NO
YES
DELETE ADVERTISEMENT FILE OF Nth CANDIDATE
S454
GENERATE CHARGE INFORMATION AND STORE CORRESPONDING TO Nth ADVERTISER
S456
N = N+1
S458
S460
Nth CANDIDATE PRESENT?
NO
YES
S462
GENERATE ADVERTISEMENT FILE BASED ON ADVERTISEMENT INFORMATION OF Nth CANDIDATE
S464
SET ADVERTISEMENT INSERTION END TIME IN TIME TABLE CORRESPONDING TO RELEVANT CONFERENCE HALL
S466
RESET ADVERTISEMENT INSERTION PROCESS FLAG
END

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*FIG.31*

| ADVERTISEMENT INSERTION CONFIRMATION MAIL ID | CONFERENCE HALL ID | ADVERTISER ID | ADVERTISING FEE (ONE MINUTE) | ADVERTISEMENT TEXT IDENTIFICATION INFORMATION |
|---|---|---|---|---|
| 2001 | 4 | 21 | X1 | SECOND ADVERTISEMENT TEXT |
| 2001 | 4 | 14 | X2 | NEW TRANSMITTED TEXT |
| 2001 | 4 | 3 | X3 | FIRST ADVERTISEMENT TEXT |
| ⋮ | ⋮ | ⋮ | ⋮ | ⋮ |